AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Apparatus comprising:

a source of first and second color difference signals (B- Y, R- Y), said first and second color difference signals being associated with a color signal having an amplitude and a phase;
a signal processor (M1; M2; M3; M4; A1; A2) coupled to said source, said signal processor processing said first and second color difference signals to produce a phase shift (Θ) of said color signal in response to a control signal; and
control means (Control Voltage Generator) for generating said control signal in response to a user command to change the hue of said color signal, characterized in that
said control means provides ~~as control signals~~, as control signals, linear approximations of non-linear functions used to produce said phase shift whereby said signal processor produces an amount of phase shift in response to said linear approximations.

2. (currently amended) The apparatus of claim 1, characterized in that said linear approximations are associated with the ~~value~~ values of sine Θ and cosine Θ wherein Θ corresponds to an amount of phase shift of said color signal.

3. (currently amended) The apparatus of claim 2, characterized in that said linear approximations approximate sine Θ as $K_1 \Theta$, and cosine Θ as $1\text{-}K_2 \Theta$, wherein K_1 is equal to about ~~.78/45~~ 0.78/45 and K_2 is equal to about ~~.21/45~~ 0.21/45.

4. (currently amended) The apparatus of claim 2, characterized in that said linear approximations are provided when said phase shift is in ~~the~~ a

range between about + /-30°.

5. (Original) The apparatus of claim 3, wherein the signal processor comprises first (M1), second (M2), third (M3), and fourth (M4) multipliers and first (A1) and second (A1) adders, said control means generating first and second control signals, said first color difference signal (B-Y) being provided to a first input of said first multiplier and to a first input of said third multiplier, said second color difference signal (R- Y) being provided to a first input of said second multiplier and to a first input of a fourth multiplier, said first control signal being provided to a second input of each of said first and fourth multipliers, said second control signal being provided to a second input of each of said second and third multipliers, an output of said first multiplier and an output of the second multiplier being coupled to respective inputs of said first adder for summing the outputs of the first and second multiplier for producing a first modified color difference signal, an output of said third multiplier and an output of said fourth multiplier being coupled to respective inputs of said second adder for subtracting the output of said fourth multiplier from the output of said third multiplier for producing a second modified color difference signal, said first and second modified color difference signals representing a color vector having said phase shift.

6. (Original) The apparatus of claim 5, wherein the control means generates said first and second control signals corresponding to sine Θ and cosine Θ, respectively, to cause said signal processor to produce said phase shift.

7. (currently amended) The apparatus of claim 5, characterized in that said linear approximations approximate sine Θ as $K_1 \Theta$, and cosine Θ as $1\text{-}K_2 \Theta$ wherein K_1 is equal to about ~78/45 0.78/45 and K_2 is equal to about ~21/45 0.21/45.

8. (currently amended) The apparatus of claim 5, characterized in that said linear approximations are provided when said phase shift is in the a range between about + /-30°.